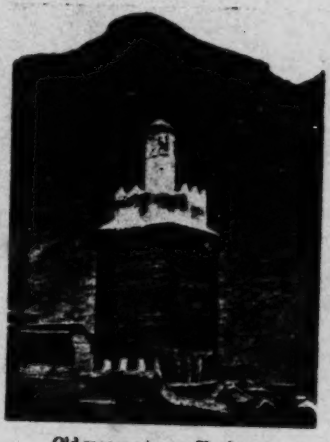
1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

PLATE 17

HOUSE TYPES 1



Old mosque tower, Sheshawen

Typical street, Sheshawen

342 ●
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Town square, showing octagonal mosque tower, Sheshawen

Thatched-roof house type, Tiguisas, Ghomara

[facing p. 64]

1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

HOUSE TYPES 2

342

Side view showing projecting *arof*, Beni Bu Nsar

Front view showing projecting *arof*, Beni Bu Nsar

Village of Tamedith, Beni Bu Nsar

Two-storied house showing cribwork, Beni Bu Nsar

[p. 66 (A)]

1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

HOUSE TYPES 3

342
346

Cantonal mosque, Iherrassen, Gzennaya

Village mosque, left, and school, right, Tesarin, Taghauth

764

Zaouia of the Ikemrijen, on Tizi Ifri between Beni Amart and Beni Beshir, showing wooden *amsiyimath*

Ornate saint's tomb, Suk et Tnine, Taghauth

[p.66 (B)]

1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

314 it a large earthen pot or other vessel. Over this they place a perforated plate like a *seksu* dish, and over that the *takka* wood, shielded from the fire by an inverted vessel. Over all a pile of brush is heaped, and this covered with dirt, except for an ignition hole. The fire is then lighted, and smoulders for days. When it has finally died down, the woodcutters extract the tar from the lowest pot.[1]

Tar is called *jathukh*. It is the only product made from the sap of the pine, since turpentine and resin are alike unknown to the Riffians. It is found in Beni Bu Nsar, Beni Seddath, Beni Khennus, Ktama, Taghzuth, Beni Bu Shibet, Beni Hamid, Zarket, Beni Beshir, Beni Amart, Mountain Urriaghel, Iberrushen, Ikhuanen, Temjunt, Bured, and Beni Mesduy.

HOUSE TYPES

● 342 **Sedentary Habitations.** The tribesmen of the Rif, Senhaja, and Ghomara occupy permanent houses, square in room-unit form, and usually built, when there are more rooms than one, about a hollow square serving as courtyard. The house, *theddath*, is generally of stone masonry with a roof of clay, thatch, or shingles. The component elements are as follows:

azkak, the courtyard.

afshthair, the low or sunken area at one end of the nuclear room, used by the family cow.

thizi, the middle area in which the family lives.

arfith, a raised platform at the end of the room opposite to the *afshthair*. This platform is slept on by the family.

thighagha, a rude firehole, hedged with stones, and set in the middle of the floor, usually in line with the door. There is no chimney, except in rare cases where a broken pot is set into the roof, and ordinarily the smoke finds its own way out of the room.

arof, a wooden loft built over the cattle-pit. This loft, made of rafters covered with loose, unnailed planks, and supported by a post from beneath, is used mainly for storage of firewood. In the Beni Bu Nsar, the *arof* is made to project through the wall under the roof, which likewise projects, forming a covered-in second-story piazza, often slept on in summer. It is sometimes supported by posts, the village street passing under it. (See plate 18.)

ajum (Arabic *silum*), the notched pole which holds up the *arof* and delimits the edge of the cattle-pit. The notches in this pole serve as ladder rungs for mounting the *arof*.

a'atab, the wooden lintel over the door.

thaworth, the door, made of two or more adze-flattened pieces of wood, with projections left at either end on one side, to fit into the lintel above and the ground below and serve as hinges. There is no lock, no latch, and rarely a handle.

thabuarjth, the window, a square opening of small size in the wall. There is seldom more than one window to a room.

thaworth n thabuarjth, the shutter. When a window is larger than a mere peep-hole, it is entitled to and receives a shutter — merely a miniature door, kept closed most of the time.

thuzukha, the roof, the component elements of which will be discussed separately.

sethur, the ridgepole, generally a single log, either left rough or hewn into hexagonal shape with the adze. Sometimes, with the aid of a pillar, the ridgepole may be composed of two logs laid end to end.

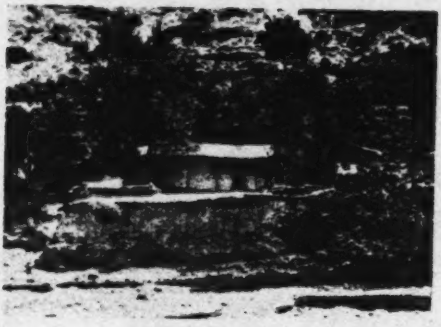
[1] A more complicated method of tar distillation, used in the South Algerian oasis of Tidikelt, has been described by L. Voinot in *Le Tidikelt*, pp. 142–143.

1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

HOUSE TYPES 4

342
346

Cantonal mosque, Tiddest, Ikhuanen, Gzennaya



Village mosque, Tiddest, which served as Hajj Bukkeish's office during the Riffian war. This picture shows the porch clearly

The only two-storied house in the Iberrushen, Gzennaya

Courtyard interior, showing porch and sloping clay roof. Ulad Abd el Mumen, Iberrushen

[facing p. 68]

1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

342

thahenneshth, the pillar, a whole log or tree trunk. When the pillar has a broad base suitable for holding the ridgepole without the aid of other devices, it is turned upside down. When the butt is of moderate breadth it is set upright, and at the top end thrust into a hole in a curved crutch-head.

tha'asitch, the wooden crutch-head, or capital of the pillar, a curved piece of stout wood, with its concavity facing upward to hold the ridgepole, and having on its convex side in the middle a square hole into which is set the squared end of the pillar. When the pillar is set butt upwards no *tha'asitch* is employed.

igsthisan, rafters, peeled poles set so close together that they touch, or nearly so, and reaching from the ridgepole to the walls. When the roof is to be of shingles, thatch, or cork the rafters are set further apart. In the tribes of Taghzuth and Beni Bu Nsar the rafters are often squared.

aris, the small sticks or boards nailed over the rafters, parallel to the ridgepole and the tops of the walls. Sticks form a dense covering, impervious to the earth which is put over them with a layer of leaves and brush in between. Boards are nailed on as in any European house.

askeif, a porch, or piazza, consisting of the natural ground floor and an extension of the roof supported by pillars. (See plate 20.) It is found among the mountain Urriaghlis and in Beni Amart, Temjunt, Iherrassen, Iherrushen, Ikhuanen, Ulad Alu ben Aissa, Taghzuth, Beni Bu Nsar, Khennus, Seddath, Hamid, Shibet, Zarket, Beshir, and Ktama.

ghwarfth (Arabic *el ghorfat*), a second-floor room. The principle of building a two-story house is said to have been copied from the Arabs. The second-floor room must always be entered by an outside staircase running up the wall of the courtyard, by an outer wall, or by a notched pole. The *ghwarfth* is generally so low-ceiled that only a very short man can stand upright in it. The floor is treacherous, since it is made of thin rafters covered with peeled sticks and overlaid with buff-colored clay. Care must be taken to avoid crashing through into the room below. In Taghzuth and other regions of the Senhaja Sghir, where plenty of wood is available, the floor is made of planks nailed to sturdy rafters; despite this the planks are covered to a depth of about an inch with clay, which is continually working loose and making the upper chamber dirty. These people apparently borrowed the *ghwarfth* from others who had to use clay on account of the smallness of their wood; but did not have imagination enough to omit the clay when it was no longer necessary or even useful. The *ghwarfth* is not found among the mountain Urriaghlis or in Beni Amart, Iherrushen, or Ikhuanen. In recent years one has been built in Tiddest of Ikhuanen, by the Hajj Bukkeish, one in Ulad Abd el Mumen of Iherrushen, and one in Beni Msita of Beni Amart, by the Kaid Amar of that place.

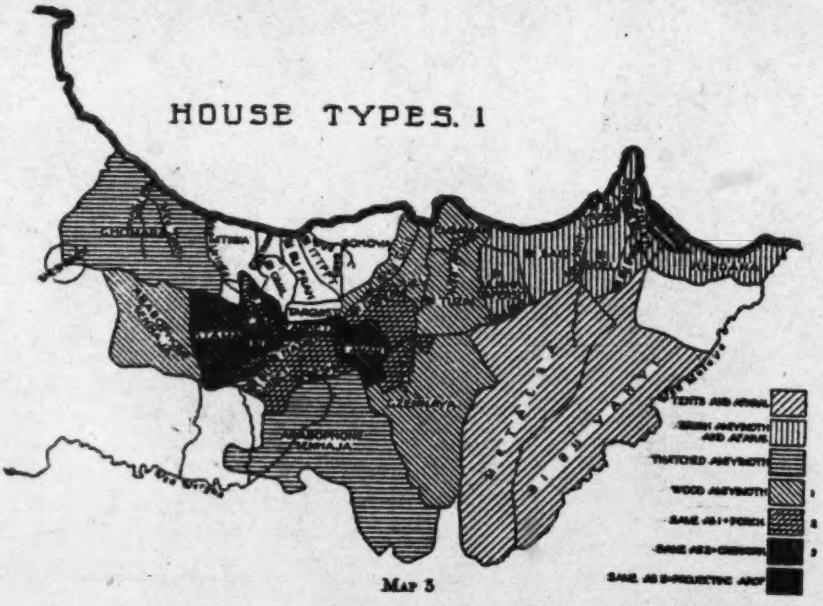
Sloping roofs. The word for sloping roof is the general word for roof, *thazukha*. For a flat roof a special word is used, *asthih*. The fact that the generalized word for roof and that for a sloping one are the same would impute a greater antiquity to the sloping variety. The constant burning of houses in feuds and in the war with France and Spain has caused the destruction of many of the better houses in the Rif. Since the French and Spaniards both have forbidden the cutting of trees on the mountains, many families have found it impossible to obtain the lumber necessary for the restoration of the roofs to their original state, and have by necessity repaired them with the flat type of roofing, much against their inclination. Sloping roofs were found before the war in Iherrushen, Temjunt, Ikhuanen, Ulad Alu

1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

342 ben Aissa, Mountain Urriaghel, Beni Amart, Iherrassen, Zarket, Beni Mesduy, Targuist, all the Senhaja but Branes, and the Ghomara.

alim (Senhajan dialect), thatching as applied to roofs. Thatched roofs are distributed through Branes, Beni Krama, Khunduktamda, Beni Koraa, Ulad Azam, Bu Adl, Bab Wendar, Muziet, Ain Mediuna, Beni Bu Nsar, Beni Khennus, Beni Seddath, Beni Gmil, Zarket, Targuist, Beni Mesduy, Western Arabophone Senhaja, and the Ghomara.

er wakth (from the Arabic word meaning paper) are shingles split from cedar or pine logs and used for roofing. They are found in the Senhaja Sghir. When wood was more plentiful, shingles were used in the Rif.



MAP 5

adrim, cork, used for roofing. Cork roofs are found in the Senhaja Sghir except Beni Mesduy, in Western Arabophone Senhaja, Beni Krama, Khunduktamda, and Zrarka. The same peoples who use it for roofing often sleep on and under it, substituting it for blankets and mattress. Mud roofs are found throughout the Rif except among the tent-users, and in the Ghomara.

Cribwork of wood, or beams laid horizontally in the masonry. This construction strengthens the walls in regions where the snowfall is heavy enough to endanger them. (See plates 18 and 19.) It is found in Taghruth, Beni Bu Nsar, Beni Khennus, Beni Seddath, Ktama, Zarket, and Beni Amart.

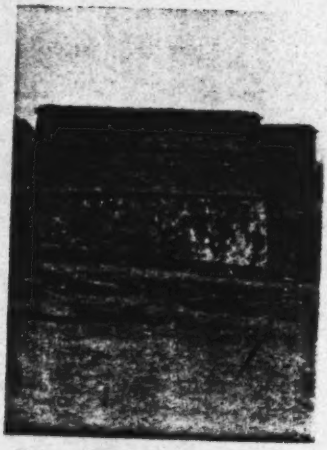
342 132 *amiyimoth*, or sheathing. A sheath is sometimes set under the eaves of houses, and sometimes on the sides, or on the ends in the case of flat-roofed houses, to protect the masonry

1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

HOUSE TYPES 5

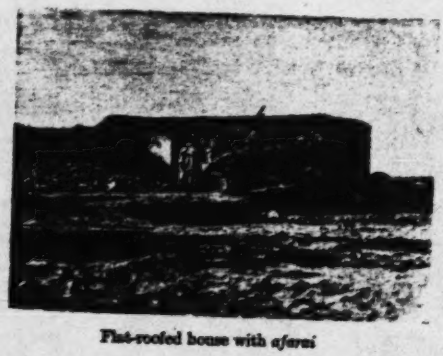
342

Village of Ajdir, Beni Urriaghel, flat-roofed house types



Defensible second story used by Abd el Krim's officers, Tafersit

Interior of Abd el Krim's central headquarters, Targuist. A recent composite house type



Flat-roofed house with *aferni*

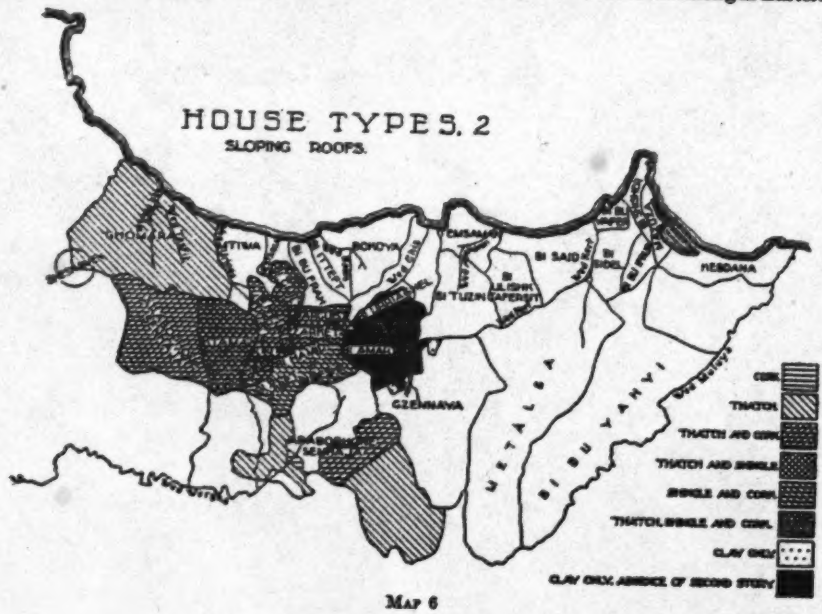
Tomb of Sidi Misaud, on the Temsaman-Beni Ulishk border near the scene of the battle of Anual

[facing p. 70]

1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

342 [132]

against the *shurrthuth*, a desolating icy wind, accompanied by rain and sleet, which strikes the Rif, particularly the mountain tribes, in winter time. (See plate 19.) Without this sheath the wind and rain would weather out the mortar and the stones might fall. There are three kinds of sheathing: the wooden type, made of planks nailed over the masonry; the brush type, made of a peculiarly dense species of bush, tied to the exposed area; and a type made of thatch. Wooden sheathing is used in Beni Tuzin, Temsaman, Beni Urriaghel, Gzennaya, Beni Amart, Senhaja Sghir, and Western Arabophone Senhaja; brush sheathing in Galiya, Kebdana, Beni Said, Beni Ulishk, and Tafersit; and thatched sheathing in Eastern



MAP 6

Arabophone Senhaja and the Ghomara. The Nomads and Bokoya, and the Maritime tribes, use no *amiyimoth*.

el asha (Arabic), a very flimsy, poorly constructed house used in the Ghomara, along with masonry houses. This structure is made of a pole frame tied together in rectangular shape, with a pitch roof; walls and roof are thatched with straw. The thatching is inferior to the Senhajan work.

Circular straw huts,[1] such as are so commonly seen along the roads in the French Zone of Morocco (see plate 22), are never used in the Rif, Senhaja, or Ghomara, excepting in Branes, where, since the war, several of them have been built as makeshift or temporary

[1] These are the *mapalia* referred to in ancient documents. See Oric Bates, *The Eastern Libyans*, p. 167.

1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

342 shelters. Even the Metalsa and Beni Bu Yahyi, who live entirely in tents, do not make them.

When a house is being built, neighbors come in from all sides to help, especially with transporting heavy logs and setting them into place. These workers are rewarded for their voluntary services by a huge repast cooked every night by the owner of the house. When the lintel of the door is put in place, the owner of the house slaughters a hen under it in the doorway, so that the blood spatters the threshold and the lintel. This action is followed by a delay in work while a special feast is eaten. Similarly, when the ridgepole has been set in place, the owner climbs astride it with a goat, or, if he be poor, with a hen, and slaughters the animal, holding it in such a way that its blood will spatter the ridgepole. After this he throws the carcass down, and the meat is made into festive food.

The interiors of all houses are whitewashed more or less frequently, and the beams too are generally whitewashed. Sometimes a streak of the whitewash is put around the rims of the windows on the outside. Only in the case of mosques and marabutic tombs, however, is the outside of a building ever completely whitewashed, and then it is obligatory. When one sees a mosque or tomb without this distinctive feature one may be sure that the structure has been abandoned for a long time.

Intrusive Features, Usually Associated with Mosques. *The Moorish arch* in doors and windows is found only in the Senhaja Sghir excepting Beni Gmil. It is probably an innovation recently brought from Fez or Sheshawen, and may be used on dwellings as well as on religious structures.

Domes are found on saints' tombs in Galiya, Kebdana, Beni Said, Beni Ulishk, Beni Tuzin, Temsaman, Tafersit, Ajidir, Bokoya, Targuist, Beni Itteft, and Beni Bu Frah. Since domed tombs were built entirely by Spanish "renegados," or fugitives who entered the Rif and became Riffianized in religion and culture, they can hardly be regarded as a Riffian cultural feature. (See plate 22.)

Tiled roofs are found only in Zawia et-Tifah of Ikhemrijen, in Targuist. These tiles, of the same green-glazed variety as those found in the cities of Arab Morocco, were brought from Fez and were set up by "renegados." (See plate 22.)

Minarets. The only minaret in the Rif, to my knowledge, is that connected with the Zawia et-Tifah at Targuist — obviously an imported feature. (See page 22.)

Mosques differ from ordinary habitations not only in the possession of an external coat of whitewash, but also in that they are seldom built so as to form a courtyard, the rooms being frequently strung out in a line or in irregular order. In this way the porches, which in ordinary houses face on the courtyard only, are visible from the outside.

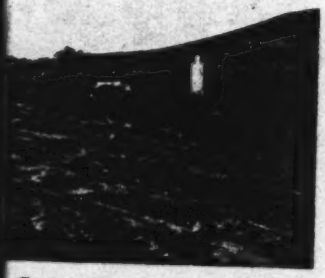
Tents. The Metalsa and Beni Bu Yahyi live in tents made of woven goat hair and *halfa* braids, the *halfa* serving as warp and the goat hair as weft in this peculiar fabric. The Beni Bu Bekar and the Ait Driss, members of the Metalsa living near Beni Mohammed of the Gzennaya, inhabit houses built like those of Beni Mohammed instead of tents. (See plate 22.)

The tent cloth, rectangular, its length greatly exceeding its breadth, is held up by a three-pole arrangement resembling the Greek letter π. The two upright sticks, which are socketed into the top one, are called *iamuthen*, and the top stick, or ridgepole, is called the *aghiur n usun*, or tent-donkey; its length equals about half the breadth of the tent. These three relatively short pieces of timber can be taken apart when the tent is dismantled, and take up very little room. The tent is held down on the sides by pegs, called *izhazhen*, sepa-

1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

HOUSE TYPES 6

342



Zawia et-Tifaha, Targuist, the seat of Sidi Mohammed Akhemrij. Tower and tiled roof built by Christian *renegados*. Tiles imported from Fes

Saint's tomb, Galiya. Domes constructed by *renegados*

Nomad tent, of the type used throughout North Africa

Straw bee-hive hut, the *mapalium* of the ancients, characteristic of the Atlantic coastal plain, and recently introduced into the Branes

[facing p. 72]

1: Coon E-5 (1926-1927) 1931 MX3 Rif MX3

342 rated from the tent proper by long ropes, purposely designed so that the edge of the fabric composing the tent will remain about two feet from the ground. The space under the tent is sometimes walled off with matting set up as sides, and sometimes left open.

351 About the tent or group of tents the Nomads place thick hedges of cut, dried brush, of a particularly thorny and impenetrable variety, called *afarai*. This forms a serviceable en-
417 closure to protect the livestock against animals and the whole encampment against invaders, since anyone stumbling into it would arouse the dogs (if the latter had not already become aware of his approach).

In Galiya, Kebdana, Beni Said, Beni Ulishk, and Tafersit, the sedentary peoples have adopted the *afarai*, but for a different purpose: they set it around their courtyards and onion patches to keep out wild animals. (See plate 21.)

342 Among the tent-dwellers of Braber extraction and the Arabs, every tent contains a *thaghirtch*, a cloth curtain dividing the area into two rooms, one of which is intended as a chamber of seclusion to which the women may retire when guests arrive. Among the Beni Bu Yahyi and Metalsa such an arrangement is not found, since all sleep and live together under the one undivided cloth. Among the sedentary peoples, when a family living in a one-room house wishes to insure privacy for the womenfolk, the *thaghirtch* is hung up across the room in such a way that the part open to the guests includes the door, the women being virtually imprisoned until the guests depart. It seems strange that in the Rif only the sedentary peoples should use what is elsewhere a nomadic means of obtaining privacy.

HOUSEHOLD FURNITURE

352 Household furniture in the European sense is for the most part lacking. What there is consists of mats, skins, mortars and pestles, wooden bowls, pottery containers, baskets, basketry trays, and little else.

Stools are found only in the nuclear area. The Riffian stool, called *thiminjarth*, is a low affair, adzed from a single block of wood, with a long gouge parallel to the edges scooped out beneath to form a cleavage between the two sides. The top is concave and built for
[52] comfort. The Riffians who use these stools are very much ashamed of them and hide them when guests from outside the nuclear area are expected. The stools are found in Beni Amart, among the mountain Urriaghlis, and in Temjunt, Iherrushen, and Ikhuanen.

The Taghzuthis use a sort of low stool made from several pieces nailed together, with four legs and a concave top. This seat is used by leatherworkers, who get down and sit on the ground when not working. These Taghzuthi craftsmen also possess low round tables on which they cut leather, and others, built like butchers' blocks, on which they pound it. Both these types of table and the local chair form are definitely associated with the leather industry, which is a recent one in Taghzuth; indicating that these articles of furniture are of no great antiquity at Taghzuth. Other objects which adorn the house are pottery, basketry, cloth, and blankets, described elsewhere.

Pegs along the walls serve to support clothing, firearms, leather bags, earthen plates, bottles of European manufacture (highly prized and hung up in places of honor), and strings of peppers and onions, which likewise festoon the rafters. Sausages sometimes hang clustered from these capacious rafters, which likewise furnish a resting-place for the family distaff, wool cards, and wool. The upright women's loom is set up in the rooms least likely to be used in the entertainment of masculine guests.

778 [199] The benefits derived from contact, direct or indirect, with saintly places are innumerable.

[342] [200] When the Ait Waryager are building ahouse they put a stone from a shrine inside the walls.

[204] The baraka of mosques is also used for various purposes.

[354] [205] Among the Ait Waryager a new lamp (rqandir) is taken to a mosque to be filled there with oil the first time so as to get the benefit of its baraka.

[208] The baraka of sacred words and passages of the Koran is very extensively used in the writing of charms. A written charm is called in Arabic herz (or horz; plur. hruz) or hejab (or hajab; plur. hjabat). In the Berber dialects there are berberised forms of these words, such as lharz (plur. lahruz) and lhejab (plur. lhejabat) in the Shelha of Tazerwalt, rahajab (plur. rahajabat) in the Rifian of the Ait Waryager, and rhaz (plur. rhruz) in that of the Ait Temsaman.

Charms are written for a variety of purposes—preventive, curative, [789] or more positive purposes of some kind or other. The most precious of all purely preventive charms is the so-called t ebrid (by the Ait Waryager).

778 [211] Charms containing passages of the Koran are used as a pro-
755 tection against the jnun and the evil eye, and as a remedy for illnesses caused by the former or other illnesses.

Among the Ait Waryager, also, something from the Koran is written in a bowl or on a paper as a cure for illness; the writing must not be exposed to the sun, and when the scribe takes it to the patient he keeps it hidden under his cloak. Water is then poured over the writing, and the sick person drinks the water or his body is washed with it.

There are many charms written against particular illnesses or defects of some kind or other.

When [212] a pregnant woman does not give birth to the child in due time, or when a person suffers from stomach-ache, a herz is written on a writing-board or a bowl or plate, and water is poured over it and drunk as medicine (Tangier, Ait Waryager).

[261] If a child is fond of eating earth a charm is written on a small loaf of bread and another one on a hard-boiled egg after the shell has been removed; the loaf and the egg are then given to the child to eat, with the result that it loses its taste for earth (Ait Waryager).

776 372 out of the house but should be extinguished indoors, as there are jnun at the door (Ait Waryager).

373 [295] A light should not be extinguished by blowing; if anybody blows out a light he will have a rank breath (Shawia, Aglu), or his face may become distorted (Ait Waryager).

●342 776 784 Besides the fire-place there is another haunted place in the house, namely the threshold. Nobody is allowed to sit down on the threshold of a house or at the entrance of a tent; should a person do so, he would become ill himself or give bas to the dwelling. So also it would be unlucky for the house and its inhabitants if anybody should pull up the backs of his slippers on the threshold (Hiaina, Amzmis, [585] Igliwa). A bride is carried across it; Chenier says that when the bride enters the bridegrooms's house, her relatives carefully observe that "she shall not touch the threshold of the door". The "masters of the house" are walking in and out over the threshold. Every house, and indeed every place, has its jenn-owners: kull mahall be mwalih. These spirits are called "the masters of the place", in Arabic mwalin le-mkan (mwalin l-mkan), in Berber ayitbab umhan (Ait Waryager) or idbab w wansa (Ait Sadden); or "the men" or "people of the place", in Arabic rijal le-mkan, in Berber ait lmakan (Shelha) or ait udgar (Igliwa); or "the masters of the house", in Arabic mwalin d-dar, in Berber [296] lemluk n tgimmi (Aglu). If the masters of the house are good the inhabitants will prosper, if bad they will have misfortunes or soon die. These jnun are frightened by dogs, by photographs, and by whistling.

802 [298] Among the Ait Waryager, if anybody receives money in the late afternoon or in the evening, he spits on it so that it shall remain in his bag; but it is their custom not to make any payment after asar.

802 784 Grinding corn, touching grain, lending a handmill to a neighbor, taking corn or a handmill or sieve out of the house or tent, and giving away yeast, are acts which are prohibited at or after asar or between [264] asar and sunset. People should not eat in the dark, because, if they do, jnun may be eating with them. Food kept inside the house over night is covered up to prevent jnun from eating of it (Hiaina, Ait Waryager).

784 776 272 [299] The Ait Waryager maintain that not only food but water which is kept inside the house over night should be covered up, to prevent jnun from drinking of it.

776 Ramadan, when the jnun are released from their imprison (303/ ment.
789 Some people keep salt in their bags or put a pinch of salt in their written charms to prevent jnun from spoiling their efficacy.

[231] The Ait Waryager strew salt at the place where an animal is going to be slaughtered, if this is to be done after asar, though not otherwise.

[515] [304] Among the Ait Waryager a person who goes to wash himself at the damattihart in the corner of the house which is reserved for this purpose, throws some salt on the ground.

[305] For the same purpose the Ait Waryager keep salt on their lamps.

[784] And a person carrying salt with him is prohibited from coming near a butcher's table, because if he did so no jnun would buy any meat from the butcher (Ulad Bu aziz, Andjra, Ait Waryager).

[307] The jnun shun the smell of tar.

●[342 513] The Ait Waryager put tar on the threshold of the house and at the place on the floor where they sleep, as a protection both against jnun and snakes.

Tar is put in the wooden box or earthenware vessel in which money is buried so as to prevent jnun from haunting it and striking the owner when he again digs up his money (Ait Waryager).

The jnun are much afraid of powder, the very smell of which drives them away. The Ait Waryager say that the powder they carry in their bags, like the salt, prevents the money kept there from getting haunted.

[308] The jnun are kept off or driven away by alum, harmel, rue, rosemary, coriander seed, agal-wood, gum-ammoniac, gum-lemon, and benzoin.

[844] [309] Among the Ait Sadden the room or tent in which a child is born is fumigated with gum-lemon or benzoin, and in Andjra and among the Ait Waryager with benzoin, which is said to be shunned by the jnun but liked by the angels and consequently induces the latter to remain there.

In Fez I was told that they like the smoke of agal-wood as well. It is a common belief in Morocco that the jnun delight in black benzoin (Dukkala, Shawia, Andjra, etc.), whereas opinions differ as regards their attitude to white benzoin. Some people say that they are much afraid of it (Ait Waryager), or that it is liked by certain

776 jnun but disliked by others, which is shown by the fact that the smoke
789 of it makes a person who is possessed with jnun weep (Andjra).

[313] In their relations to baraka there are indeed many inconsis-
776 tencies. Sayatin, if not Muhammadan jnun, are said to avoid a place
778 where there is a horse or a greyhound on account of the baraka
789 possessed by these animals (Tangier, Ait Waryager); the neighing of a horse puts them to flight (Hiaina) or breaks the heads of forty evil spirits (Ait Waryager). On the other hand, as we have seen, they are ever ready to attack bride and bridegroom, who also have baraka, they have no respect for shereefs, and they haunt saintly shrines at night.

776 [315] One of the most common methods of warding off jnun is
789 to do so by means of a sacrifice. Frequent instances of this are found in the ceremonies connected with house-building, which, besides, contain many other practices performed for the same purpose.

[342] [317] The Ait Waryager put some tar at the place where the house is to have its entrance, and then make the threshold over it. When the walls have reached about the half of the height of the door-place, a sheep or goat or fowl is sacrificed over the threshold, and the meat
[782] is eaten by the owner of the house and the workmen. Sacrifices are also in some cases made before the building commences and after it is finished; but these sacrifices are not so important as the former one, the omission of which would result in the illness or death of the owner.

[312] [321] Among the Ait Waryager a goat or a fowl is killed at the
[782] place where the well is going to be dug; and when the water appears another sacrifice is made, but this time the victim must be either a goat or a sheep. These sacrifices are ar upon the ayitbab umhan, and their object, I was told, is to prevent those spirits from striking the workmen.

776 [324] When a jenn or jnun have actually got hold of a person,
755 attempts are of course made to drive the enemy out; and the means
789 used for this purpose are largely very similar to the prophylactic practices described above.

A favourite cure consists in the use of tar.

The Ait Waryager put tar on the top of the head, into the nostrils, and the joints of the arms and legs of a person who suffers from an illness supposed to be caused by jnun, and burn tar and white benzoin so as to make the smoke pass underneath his clothes and be inhaled by him as it comes through.

3: Hart E-5 (1953-1954)1954 MX3 Rif MX3

●342 House sites in Aith Wuryāghil are determined by two principal
[341] considerations: availability of water and adaptability for defense (6). The walls, sturdily built of mud and stone masonry in the mountains and of adobe in the plains, form a rectangle which is almost a square; wall dimensions are, roughly, 15 by 20 meters in length, 3 1/2 or 4 meters in height, and 1/2 meter in thickness. Walls and rooms are constructed around a courtyard. Save in the houses of rich men who can afford a *ghurfa*, there is only one floor, of baked clay. The roof is flat, made of earth and supported by beams. The rooms, located
[356] just within and along the walls, are always whitewashed and kept scrupulously clean; this is particularly true of the reception room for guests, who enter it by a small side door so as not to see the women of the family who are working in the courtyard. There is never more than one small, rectangular window to a room, and in the houses of wealthy Riffians glass windowpanes are now in vogue. The windows also served as loopholes in case of attack after the old feuding towers were removed by order of 'Abd al-Karīm in 1922. In one corner of
351 the courtyard is a sunken pit, usually partitioned off, which acts as a stall for the family cow; above this is a loft used for storage. The courtyard itself, to which access is gained by a large wooden door
[354] through which the animals may pass, contains the oven in which the women bake barley bread; the brushwood needed to feed it is stored
[251] beside it. Also inside the courtyard is the kitchen and an underground silo, in which the grain reserves are deposited, while dried figs are kept in big circular wickerwork baskets sunk into the earth. The courtyard is surrounded by a porch, consisting of the ground floor and an extension of the roof supported by pillars. The center of the patio acts as a shelter for the goats and sheep at night, if there is no special stable for them. Each house is inevitably surrounded by an
[417] impenetrable clump of cactus (which has a certain food value in hard times), and the mangy dogs of the owner always bark furiously at the approach of a stranger; the house is thus well guarded. Just beyond it, and near the orchard, is the threshing floor, upon which the circular straw silo is piled up by the *akhammās* as the last of his tasks during the agricultural year.

(6) Blanco Izaga, Emilio: **La Vivienda Rifeña**, Ceuta 1930, passim.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
Jebala MX2

and Aith Wariyaghar, and the wheel-made pottery in Ibuqquyen, Aith Tuzin, and Thimsaman.[1] Basketry is made by coiling, twilling, and wickerwork. In the manufacture of woolen textiles two types of loom are employed: in most of the northern zone an upright two-bar loom with stick heddle is used; another type of loom is a horizontal mechanism, with looped wire heddles, operated by a treadle. In Garet, long braids of alfa grass are tied to stakes to form a crude loom for weaving textiles.

Differences in types of houses and in settlement patterns provide further evidence of cultural diversity. Jbala, Gharma, and Sanhaja as-Srair represent one tradition, while the Rif, Garet, and Gal'aya represent another. The sharp division between sloping roofs in the western half of the zone and flat roofs in the area east of Targist (see chap. v) coincides with the difference in settlement pattern between the hamlets of the west and the scattered farmsteads of the east.

In Morocco, as in most of the Muslim world, it is easy to distinguish between the clothing of townspeople and that of rural folk. The sophisticated townsman (fig. 3, *d*), with gabardine suit, European shoes, fez, and dark glasses is never mistaken for a man of the country (*bilad*). Urban and rural differences in women's dress are even more pronounced. The shrouded figures seen in the cities (fig. 3, *h*, *i*) contrast sharply with the unabashed women of the countryside.[2] Men and women of the bilad are promptly identified when they enter a town. From which bilad do they come? A generation ago, before the adoption of cotton cloth and other imported fabrics, this question was easy to answer. Garments were then made entirely of wool, locally sheared, spun, and woven, and each costume betrayed a provincial style. Today this distinction is not always clear; yet it is still possible to learn much about where a man comes from by the length and cut of his clothing, the way he ties his turban, and the nature of his footgear. Women's dress is even more explicit.

The basic garment of most tribesmen is a hooded cloak (*jillaba*). We can be sure that this garment was worn in the sixteenth century, for Leo Africanus describes Moroccans as being "clad in certain woolen cloaks or mantles, such as are used in Italy." "These mantles," he adds, "have certain hoods, which cover their heads and visages, so that you can scarce discern them to be men."[3] In Jbala and Ghmara, cloaks are knee-length, and there is no transition from hood to sleeves. The front of the Jbalan cloak usually has tufting or some other decoration. A generation ago this type of garment was worn in the Rif also, but today most Rifians wear a longer cloak, reaching halfway between knee and ankle. Rifian cloaks are no longer decorated, and most of them have definite shoulders (fig. 3, *a*). Throughout northern Morocco, brown is the preferred color for cloaks, but gentlemen of distinction occasionally wear white (fig. 3, *b*). One sometimes sees a gray or blue cotton jillaba and even a few of striped pattern, but such apparel is worn only by tribesmen who are more or less urbanized.

Cotton turbans (*rezza*) are the characteristic headgear. In the Rif, turbans are worn straight, two fingers above the eyebrows, and are always white. This

[1] Ernst Rackow, *El traje musulmán femenino en Africa del Norte* (Madrid: Instituto de Estudios Africanos, 1953); and *Beiträge zur Kenntnis der materiellen Kultur Nordwest-Marokkos: Wohnraum, Hausrat, Kostüm* (Wiesbaden: Otto Harrassowitz, 1958).

[2] Leo Africanus, *The History and Description of Africa* (London: Hakluyt Society, 1896), II, 326. First edition, Venice, 1550.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3

In addition to a common language, certain other culture traits are shared by most Berbers. The Berber arts still differ from the Islamic arts acclimatized in Barbary. Designs on pottery, rugs, and blankets are almost entirely in geometrical patterns. Nothing could be clearer than the contrast between the lozenges and chevrons of Berber work and the complicated floral and epigraphic designs of Levantine art. The simple houses of the Moroccan highlands probably are local variants of the prevalent Mediterranean types, but the multistoried buildings of rammed-mud blocks in southern Morocco show eastern affinity. Indeed, no traveler who has seen the Moroccan *qsar* and the "skyscrapers" of southern Arabia can fail to be impressed by the similarity of the two.[14] Similarity of this sort suggests diffusion of style and techniques from a common center, possibly eastern Africa, which may also have been the main center of the "Hamitic" languages.

A few nonmaterial traits also can be associated with Berber speakers. We can still discern among them the remains of an agrarian animism. The ceremonies that seek to obtain through rain, considered as the male element, the fecundity of the soil, which represents the female, are doubtless of this category. Wherever Berber is spoken, the important events are reckoned by solar months, not by the Muslim lunar calendar.[15]

Until recently the social organization of most Berber-speaking communities differed from the Arab or Muslim order.[16] The Berber districts were characterized by extreme fragmentation into small units, each guided by ideals of independence and self-sufficiency.[17] The cell of each unit was the family. Several families formed clans, with about a hundred members who traced their descent from a common ancestor. In the regions of deep-rooted peasantry, particularly in the mountains, groups of related people were linked by means of assemblies composed of delegates from each family.[18] The function of the assembly was to regulate the tasks and taxes of the community. To ensure the execution of decisions and to facilitate relations with other assemblies, a chief, or elder (*amghar*), was appointed, but he was only the delegate of the assembly and every precaution was taken to prevent aggrandizement of his powers. A prudent rotation arranged for the representatives of the principal families to take office in turn. The territory governed by the

cians. In modified form, it is still used by the Tuareg. G. Marcy, "L'épigraphie berbère numidique et saharienne," *Annales de l'Institut d'Études Orientales*, 2 (1936), 128–164; F. R. Wulsin, "The Prehistoric Archaeology of North-West Africa," Peabody museum of Archaeology and Ethnology, *Papers*, 19 (1941), 111–114.

[14] Cf. the photograph of San'a in Harry Hoogstraal, "Yemen Opens the Door to Progress," *Nat. Geog. Mag.*, 101 (1952), 238, and of Tinerhir in Jean and Franc Shor, "From Sea to Sahara in French Morocco," *ibid.*, 107 (1955), 178–179.

[15] Other examples of pagan survivals in Morocco are given in three works of Edward Westermarck: *Ceremonies and Beliefs Connected with Agriculture, Certain Dates of the Solar Year, and the Weather in Morocco* (Helsinki: Akademiska Bokhandeln, 1913); *Ritual and Belief in Morocco* (London: Macmillan and Co., Ltd., 1926); and *Pagan Survivals in Mohammedan Civilization* (London: Macmillan and Co., Ltd., 1933).

[16] The remarks to follow are based upon Robert Montagne's *Les Berbères et le makhzen dans le sud du Maroc: essai sur la transformation politique des berbères sédentaires (groupe Chleuh)* (Paris: Alcan, 1930).

[17] I use the past tense because the French-sponsored *dahir* of May 16, 1930, which called for a division of Morocco into two districts, one under Qur'anic and the other under tribal law, was repealed on September 4, 1956. Under the present system the functions of the assemblies are exercised by officials appointed in Rabat.

[18] With excellent insight, Konrad Wiche, "Marokkanische Stadttypen," in *Festschrift zur Hundertjahrfeier der geographischen Gesellschaft in Wien, 1856–1956* (Vienna, 1957), p. 492, describes the Berber assemblies as *Talschaften* (valley associations).

7: Mikesell K-4,5 (1955-1957) 1961

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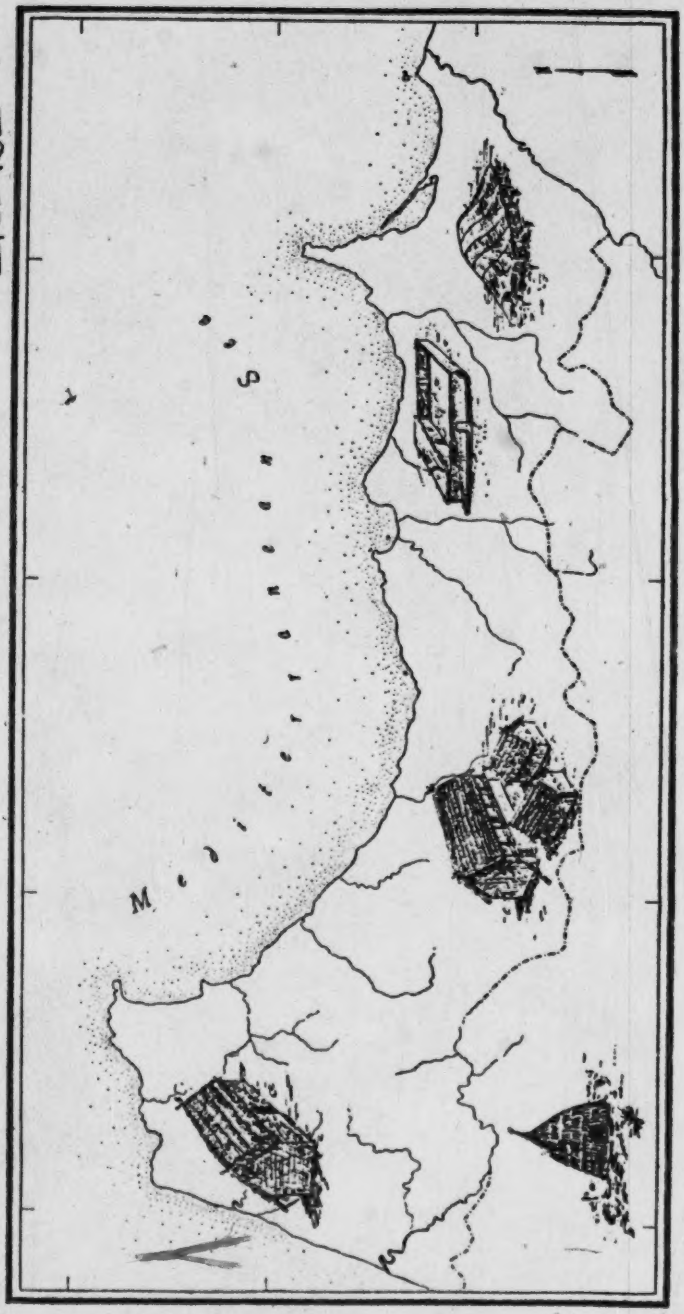

Fig. 17. Northern Morocco: principal types of houses.

/p. 70/

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
Jebala MX2
Senhaja MX4

is extended into an L- or U-shape, and similar units are added by the grandchildren (fig. 16). In Ghmara and Sanhaja as-Srair, growing families are often accommodated by the addition of a second story, but this type of architecture is rare in the deforested areas of Jbala and the Rif.

The necessary conditions of settlement are adequate amounts of land and a reliable source of water. Water is the more critical requirement. There must be sufficient water for drinking, watering the animals, washing clothes, taking an occasional bath, and, if possible, operating a grist mill. The runoff of the stream should be sufficient to irrigate a few precious plots of terraced land in which to grow vegetables and protein-rich legumes. In Jbala most hamlets appear on ridges overlooking the cultivated land. In Sanhaja as-Srair the preferred settlement sites are near the bottoms of valleys, close to perennial streams. Settlement forms a continuous line where terraces can be constructed along a large stream. The valley of Abd al-Ghaya in Ktama is a narrow ribbon of terraces and houses, stretching ten kilometers. In the valley of Taghzut the ribbon form of settlement is even more striking.[7] The concentration of settlement in deep valleys imposes severe barriers to communication. In Bani Hmid and Bani Bu Shibat, neighboring hamlets are often separated by ridges towering several hundred meters above the inhabited land. Similar problems are created by the deep ravines on the Ghmaran coast. To visit a friend or reach the nearest market, many tribesmen must spend hours on tortuous trails. In the steepest valleys, settlements are themselves terraced, like the cultivated land.

In most of the Rif the terms "hamlet" and "village" are complete misnomers. Reflecting the independent spirit of their owners, Rifian houses are separated by at least a hundred meters; in Aith Wariyaghar the usual spacing is three hundred meters,[8] and in former generations each house had a corner tower used as a lookout and blockhouse. The houses that make up a lineage unit are usually closer to one another than they are to those of any other unit, but a man must walk a short distance to visit his brother. In Sanhaja as-Srair, however, he would have only a few steps to walk. In Jbala and Ghmara the houses of kinsmen often have common walls. In most of Morocco, and especially in the Rif, houses are located in territory that indisputably belongs to one tribe or another. Border zones are seldom used except as range land, and in former generations even this use led to violent conflicts.

Types of Houses

In the whole of Morocco there are at least seven distinct types of houses. In the Gharb and in most of the coastal zone between Rabat and Wad Lukkus, the common house is a crude conical structure (*nouala*) of cane and thatch. On the southern slopes of the Atlas and in the oases of the pre-Saharan zone, houses are huge multistory structures (*qsar*) made of rammed mud blocks. On the northern slopes of the High Atlas, houses are built of stone, and resemble solid little blocks.

[7] See the aerial photographs of Taghzut in Jules Blache, "Modes of Life in the Moroccan Countryside," *Geog. Rev.*, 11 (1921), 501.

[8] A. Sánchez Pérez, "Datos historicos sobre ciudades rifeñas," in *Selecciones de conferencias y trabajos realizados durante el curso de interventores, 1951–52* (Tetuán: Imprenta Cremades, 1952), describes this distance as "el radio mínimo del espacio vital que un Rifeño de buena raza necesita para respirar a sus anchas."

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
Jebala MX2

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Rectangular houses, built about a courtyard, are common in the Rif and in the coastal zone from Mazagan to Agadir. The tribes of the Middle Atlas, who practice transhumance, spend the summer months in tents. Tents are seen also in the Gharb and in the lower Moulouya Valley. In the northwestern corner of Morocco one finds still another type of house, again rectangular in shape, but with a sloping roof of thatch.*

The sketches in figure 17 illustrate and roughly locate northern Morocco's main architectural styles. Two traditions are immediately discerned. In the eastern half of the zone the houses have flat roofs and the walls enclose an open courtyard; in the western area the houses have sloping roofs and there are no courtyards. Tents of woven goat hair appear only in the areas occupied by pastoral tribes—Ibdharsen, Aith Bu Yihyi, and Ulad Stut. The division between flat and sloping roofs coincides almost exactly with the division between clustered and dispersed settlements. These distinct patterns of settlement in turn roughly coincide with the division between Rifian and Arabic or Sanhajan speech (cf. figs. 15 and 12). Targist, with clustered settlement and houses of both eastern and western style, is an area of transition. Settlement morphology reveals the heterogeneous character of this tribe.

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Houses are built of mud brick in Jbala and along most of the Atlantic littoral. After the walls have been constructed, a ridgepole, usually the trunk of a slender riparian tree, is placed across the top of the structure, and smaller poles are set at right angles to the ridge. Thatching is applied, and the house is ready to be occupied. The distinguishing feature of houses in the Jbalan area is that the thatch is allowed to droop almost to the ground. Hipped roofs are seen in Anjra and the Fahs territory, but the more common form is a simple saddle or ridge. The Jbalan house is a small structure about five meters long and three meters wide. There is seldom any differentiation of floor levels or rooms, and furnishing is usually limited to a single mat or rug. Hamlets may be enclosed by a cluster of opuntia or a brush fence, but there is no attempt to build houses and walls to enclose a courtyard.

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South of Wad Lukkus, in the Gharb, the Jbalan type of house is replaced by cruder structures of cane or reeds. One form is like the Jbalan house, except that its walls are made of wickerwork. Another and much cruder form consists of a conical or circular framework of cane covered with straw. This structure, which seems to be of Sudanese origin, has been adopted by settled tribes of bedawin origin as a substitute for tents. Conical huts are the dominant dwelling in the

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* In the area of French influence, the literature on rural architecture is abundant, but for the Spanish zone there are only the accounts of E. Blanco Izaga, *La vivienda rifeña* (Ceuta: Imprenta Imperio, 1930); C. S. Coon, "Tribes of the Rif," *Harvard African Studies*, 9 (1931); and Ernst Rackow, *Beiträge zur Kenntnis der materiellen Kultur Nordwest-Marokkos: Wohnraum, Hausrat, Kostüm* (Wiesbaden: Otto Harrassowitz, 1958. On types of houses in French Morocco, see A. Bernard, "L'Afrique du Nord," in *L'Habitation indigène dans les possessions françaises* (Paris: Editions Maritimes et Coloniales, 1930); Robert Montagne, *Villages et kasbas berbères* (Paris: Felix Alcan, 1930); E. Laoust, "L'habitation chez les transhumants du Maroc central," *Hespéris*, 10, 14, 18 (1931-1944); M. Gaud and G. Sigault, "L'habitat indigène au Maroc," *Bull. de l'Institut d'Hygiène au Maroc*, 4 (1937), 4-102; André Adam, *La Maison et le village dans quelques tribus de l'Anti-Atlas* (Paris: Larose, 1952); Dj. Jacques-Meunié, *Greniers-citadelles au Maroc* (Paris: Larose, 1951); E. Mauret, H. Pommeret, and R. Ringuelet, "Problèmes de l'habitat rural dans la région de Rabat," *Bull. Economique et Social du Maroc*, 70 (1955), 15-71; and R. Aujard, "Problèmes de l'habitat rural dans la région d'Agadir," *ibid.*, 75 (1957), 275-288.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
Senhaja MX4

coastal plains between Rabat and Ksar al-Kebir, but they have not yet penetrated the northern zone.

Ghmaran houses differ slightly from those farther to the west. Like the Jbalan houses they are rectangular and have thatch roofs. Ghmaran houses may, however, have two stories. Another distinguishing feature is that adjoining structures often have common roofs. Ghmaran hamlets, like those in Sanhaja as-Srair, tend to develop into units of L- or U-shape (pl. 2, *a*). When a second story is added, steps are cut into the adobe walls. (In Sanhaja as-Srair the second floor is reached by a notched log.)

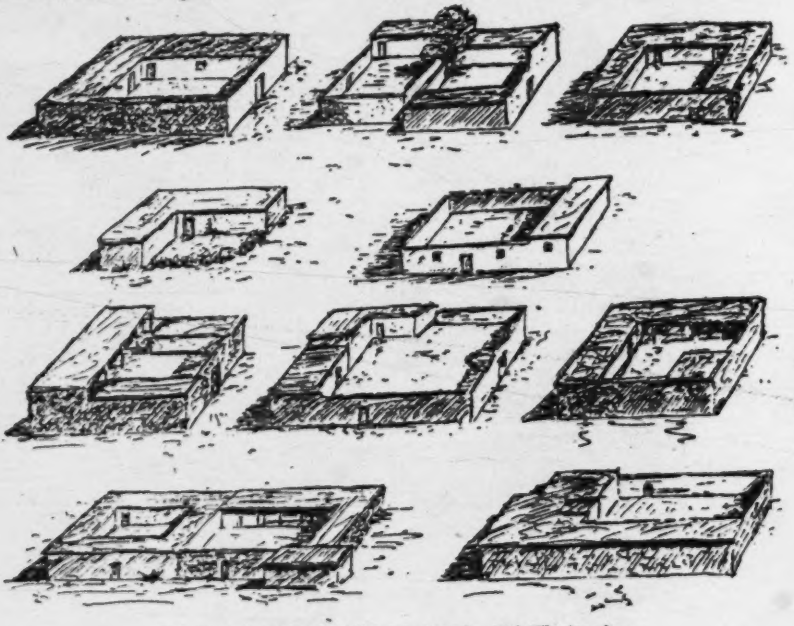

Fig. 19. Examples of Rifian courtyards, Aith Wariyaghar.

by a notched log.) Ghmara seems to be the only area in northern Morocco with special structures built to serve as granaries. Communal granaries (*agadir*) usually have the form of the prevalent houses.[10] Individual or family granaries are small structures of adobe brick and plaster set on wooden planks and supported by stone pedestals.[11]

At first glance, Sanhajan houses seem much like those in Ghmara and Jbala. The difference is in detail rather than in general outline. The foundation of the Sanhajan house is a rectangular shell of mud brick or stone with end sections constructed to form peaks about two meters above the walls. The two ends of

[10] In northern Morocco communal granaries are found only in the territory of the Bani Zejal. Robert Montagne, *Un Magasin collectif de l'Anti-Atlas: l'Agadir des Ikounka* (Paris: Larose, 1930), p. 64 and figs. 24, 25.

[11] J. Caro Baroja, *Estudios Mogrebies* (Madrid: Instituto de Estudios Africanos, 1957), p. 133.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
Senhaja MX4

the shell are joined by a ridgepole, most often a young cedar or a riparian tree. Two or more other poles are added to a form a solid framework for the roof (fig. 18, *a* and *b*). Rye straw is the preferred material for thatch, and it is placed with great care (pl. 3, *a*). The ridgepole is set between two timbers, the ends of which are carved in the shape of a crescent moon. The crescent ornament is sometimes

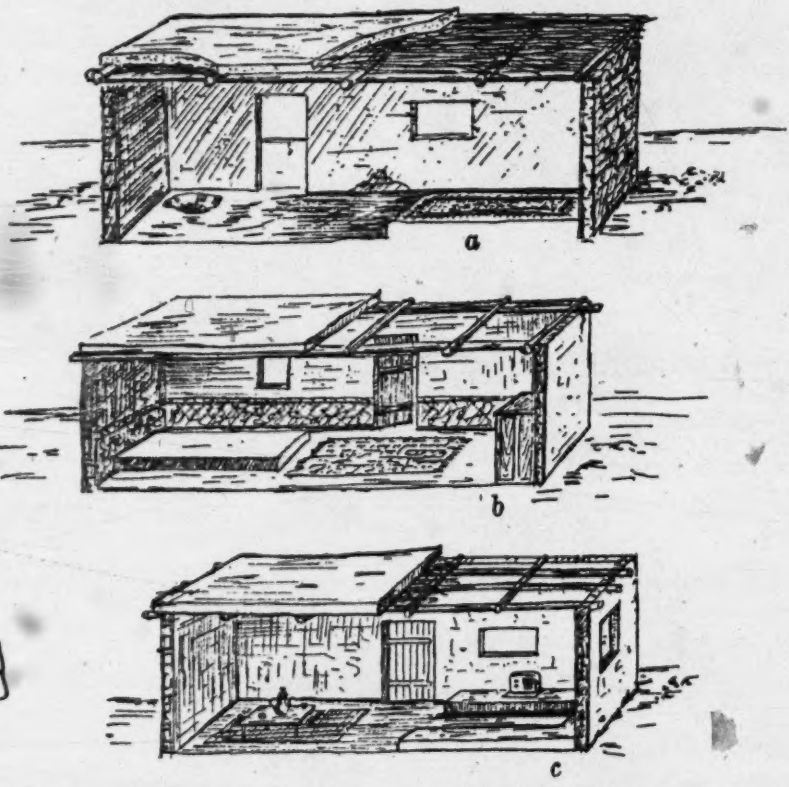

Fig. 20. Riñan houses: *a*, simple house with sleeping platform and fire pit; *b*, house of a moderately prosperous tribesman with wallpaper, cabinet, and mat; *c*, house of a tribal authority with padded benches, portable radio, mat, and table for tea service.

crowned with a carved model of a charcoal brazier and a teapot, thus uniting the symbols of hospitality and good luck (pl. 3, *a*). When stone is used, walls are usually covered with a thin layer of plaster. Wooden cribwork may be used to strengthen walls.

There are more two-story houses in Sanhaja as-Srair than in any other area of the northern zone. This preference for more elaborate structures reflects the more abundant supply of timber. When a two-story house is built, joists are cut

A, [See p. 127--Analyst]

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
Senhaja MX4

S 342 a meter or so longer than the width of the space between the opposing walls. The projecting rafters are covered with planks, and other poles connect them S [417] [513] [352] with the overhanging roof. The result is a durable platform at the level of the second floor, which is used for drying hay and hemp, and for sleeping in summer (pl. 3, *b*). A gentleman of leisure likes to have two platforms, one for the southern exposure and another for the setting sun.

The harsh winters in the Sanhajan highlands necessitate elaborate provisions S [353] for the storage of hay, fuel, and food. Each house has at least one loft, formed of poles set in the opposite walls and covered with planks (fig. 18, *a* and *b*). A separate hut may be built for sheep and goats, but the family cow is often kept S [574] in a sunken area at one end of the house (fig. 18, *a*). In the larger hamlets, separate structures or rooms are built for sleeping and entertaining guests. Guest rooms are usually on the second floor, and are always more elaborate than the S [335] [341] [252] [354] [352] rest of the house. In Abd al-Ghaya and Taghzut, where carpenters are highly skilled, such rooms have the Moorish arch at the doorway and are roofed with carefully fitted planks (fig. 18, *c*). Since cooking is usually done on a charcoal brazier, no special provision is needed for a hearth, a chimney, or smoke holes. Except for the door, which is rarely closed, light enters only from one or two small windows. Mats, blankets, and an occasional table are the only furnishings. Moroccans are not averse to sitting or sleeping on hard floors.

R 342 [351] Rifian houses, whether of adobe or masonry, have flat roofs (pl. 2, *b*), and the walls and rooms are constructed about an open courtyard. Rooms may occupy one or all sides of the enclosure, and two or more squares may be joined (fig. 19). Rafters are cut longer than the width of the room so that the overhang can be R [351] [231] [171] [333] used as a porch or drying platform. Since the winters are mild in the Rif, the open courtyards serve as enclosures for domestic animals. Rifian houses are somewhat longer and narrower than those in Ghmara and Sanhaja as-Srair, a reflection of the shortage of timber. In the highlands, stone is used for walls, whereas sun-dried bricks are used in the alluvial plains. In Aith Wariyaghar most houses are whitewashed.

R [171] [352] Aside from the flat roofs and narrow rooms, Rifian houses do not differ from those in Ghmara and Sanhaja as-Srair. Floors again consist of bare earth or a thin layer of clay. A raised platform, covered with a mat of alfa or palmetto fiber, serves as a place of repose. The three houses shown in figure 20 show the usual R 342 556 progression from a modest to a higher standard of living. The man of means has a whitewashed room, a substantial door, and perhaps a strip of wallpaper. The best houses have padded benches rather than simple platforms. Add a table for tea service, a radio, and glass windows, and you have an ideal model of the home of a shaikh or qadi. Remove these items, and you have an average Rifian home. In most of Morocco, wealth is reckoned in land, not in material embellishments.

R 341 346 171 An interesting aspect of rural architecture in northern Morocco is the lack of distinction between humble dwellings and official or ceremonial structures. Mosques in most of the northern zone are merely larger versions of the prevalent types of houses. The same comment can be made about the shrines of saints, except that the structure is usually smaller than the average house. Minarets are a recent innovation, and many of them were built by Spanish *renegados*. The only minaret

A [See p. 127--Analyst] B [See p. 126--Analyst]

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3

seldom seen except in the European quarters of the larger towns. When a feast is in prospect, food is sometimes boiled in earthen pots set about an open fire. Wood fires also heat bake ovens. But most if not all Moroccan cooking is done over a charcoal brazier, consisting of an iron pot and tripod or simply an old gasoline tin. The brazier is used several times a day to boil water for tea; indeed, more fuel is consumed in this process than in cooking. Blacksmiths and other craftsmen rely upon charcoal, and lime kilns are found near every town.

Charcoal is a valuable fuel, for it has about twice the heating power of wood and burns without flame or smoke. In Morocco wood is converted to charcoal in shallow pits thinly covered with earth. But this process of partial combustion is extremely wasteful, since much of the volatile material in the wood is lost. The best charcoal is obtained from the denser hardwoods, especially the oaks. *Quercus Ilex* is the preferred wood, and this preference helps to explain the degraded aspect of most stands of this tree. The cork oak, the kermes oak, the oleaster, *Pistacia lentiscus, Rhus pentaphylla,* and *Arbutus Unedo* also yield excellent charcoal. Where the choice of wood is limited, many shrubs are utilized, and all available trees. No reliable estimate of the amount of charcoal annually consumed in northern Morocco has ever been published, but it must be enormous, for a charcoal brazier of some sort burns in every home.[84] During any day of the year, women and animals may be seen carrying loads of wood or charcoal to the cities and towns (pl. 8, *b*).

Mud brick or stone usually forms the walls of houses, but wood is always required for the rafters. In the deforested eastern sector, houses are built long and narrow so that branches and twigs can be used as a covering. When available, slender riparian or coniferous trees are used as rafters, but in most of northern Morocco such trees cannot be obtained.

Riparian forests are rare today apart from some canyons in the mountains, where the remaining stands of *Salix, Alnus, Populus, Vitex,* and *Crataegus* become thinner each year. *Nerium oleander,* the riparian "tree" of the hills and plains, is of little value in construction, and the oleaster and oaks are usually too massive or knarred.

The common type of house in Gal'aya and the Rif is well adapted to an environment poor in timber. In the Rifian dialect the word for "sloping roof" (*thazukha*) is the general word for all roofs, whereas a special word (*asthih*) is used for the now prevalent flat roofs.[85] The fact that the generalized word for roof is the same as that for a sloping one indicates greater antiquity for the latter variety. There is evidence that flat and narrow houses of the eastern type have recently replaced dwellings demanding more wood along the entire western frontier of the Rif.[86]

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most of this production has been consumed by factories in the Casablanca district and by the railroads of northern Africa. Fernand Joly *et al., Géographie du Maroc* (Paris: Delagrave, 1949), pp. 135–136.

[84] The estimate of "four to five metric tons" published by the Spanish forestry service takes account only of commercial operations. E. González Vázquez, *El Marruecos forestal* (Madrid: Ediciones Técnicas, 1945), p. 72.

[85] C. S. Coon, "Tribes of the Rif," *Harvard African Studies,* 9 (1931), 69.

[86] Coon, *loc. cit.,* traces this change to the burning of houses during feuds in the pre-protectorate period, and to the fact that many families found it difficult to obtain lumber after the end of Abd al-Krim's rebellion. For evidence of changes in recent years, compare his map of house types (p. 71) with fig. 15 of the present study.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3
Jebala MX2

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133
342

a. Composite dwelling in L-Khmas (Jbala), housing four families with seven units joined to form an enclosure.

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342

b. Flat house of Rifian type at Midar (Aith Tuzin). The walls of adobe brick are being covered with mud.

7: Mikesell K-4,5 (1955-1957) 1961 MX3 Rif MX3

342
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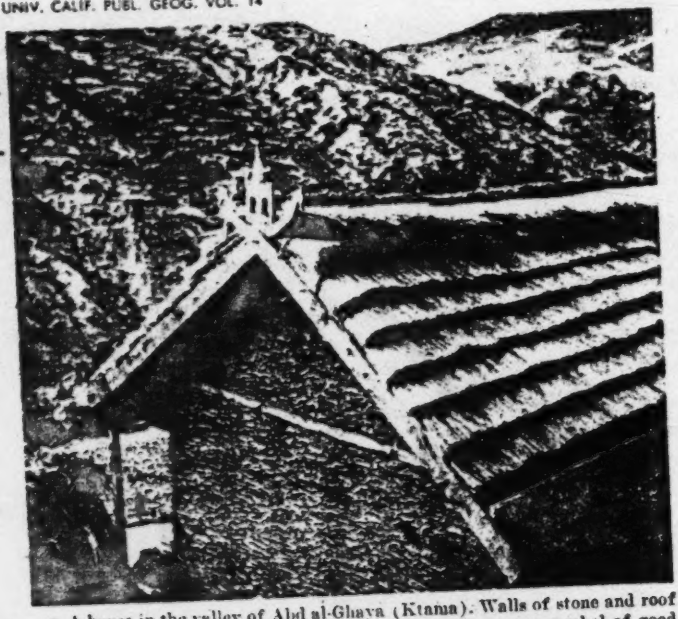
532



a. A house in the valley of Abd al-Ghaya (Ktama). Walls of stone and roof of rye thatch. Ornamental figure represents crescent moon, a symbol of good luck; brazier and teapot are symbols of hospitality.

342

b. A typical two-story house in Ktama, with overhanging roof and projecting rafters. Lower floor serves as living quarters, upper for storage.